

IISD Food Security and Climate Change Initiative

*Agriculture and Climate Change: Post-Durban issues for
negotiators*

Deborah Murphy and Jessica Boyle

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Preface

A critical challenge facing the world is how to feed an expected population of around 9 billion by 2050, while simultaneously reducing greenhouse gas (GHG) emissions and adapting to climate change.

The agricultural sector plays a critical role in food security, poverty reduction and economic growth—especially in developing countries, where agriculture is fundamental to sustainable development. Agricultural systems are very sensitive to changes in climatic conditions and will have to adapt if they are to ensure provision of adequate food for an increasing population. The sector is a large emitter of GHGs, responsible for around 14 per cent of global emissions, and has significant potential to sequester atmospheric carbon dioxide and reduce GHG emissions. In this respect, actions in the agricultural sector within the international climate change regime potentially can strengthen adaptive capacity and reduce GHG emissions while improving food security and enhancing rural livelihoods.

With the support of Canada's International Development Research Centre, the International Institute for Sustainable Development (IISD) launched the Food Security and Climate Change Initiative to help promote the triple dividend within the context of the United Nations Framework Convention on Climate Change (UNFCCC). IISD's research, policy and practice aims to inform the inclusion of agriculture in a future international climate change agreement in a way that encourages the triple dividend.

The series of policy reports focus on the following themes:

Agriculture and the UNFCCC Negotiations

- *Agriculture in an International Climate Change Agreement*
- *Agriculture and Climate Change: Post-Durban Issues for Negotiators*

Achieving the Triple Dividend: Perspectives on linking adaptation and mitigation in practice

- *Encouraging a Triple Dividend: Increased Food Security, Improved Adaptive Capacity and Reduced Emissions*
- *Integrating Mitigation and Adaptation in the Agricultural Sector*

Critical Issues for Agriculture Moving Forward

- *Addressing Financing for Agriculture: Ensuring a Triple Dividend for Smallholders*
- *Agriculture and Trade*

The papers are written by a team of researchers from IISD's Climate Change and Energy team. We extend thanks to our Expert Advisory Group—comprised of Mohammed Asaduzzaman, Marcelo Theoto Rocha, Brian Mantlana, Isabel Proulx, Alexandra Conliffe and Marie Boehm—whose input and direction improved the papers. The opinions and ideas expressed in these papers are those of the authors alone and do not necessarily reflect the views of those consulted.

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1.0 Introduction

Agriculture was an important outcome of the 17th Conference of the Parties (COP 17) of the United Nations Framework Convention on Climate Change (UNFCCC), held in Durban, South Africa, in December 2011. The inclusion of text on agriculture in the *Outcome of the Work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA)*¹ is the first time that agriculture has been “officially” recognized by the UNFCCC. While the text is short—in that it requests the Subsidiary Body for Scientific and Technological Advice (SBSTA) consider issues related to agriculture at its next negotiating session with the aim of adopting a decision at COP 18 in Doha—it can be viewed as a significant step forward.

This paper examines issues related to the AWG-LCA’s request that SBSTA consider issues related to agriculture at its 36th session to be held in Bonn in May 2012. The paper also reviews and summarizes party submissions on agriculture to the secretariat for consideration by SBSTA (as requested in paragraph 76 of the AWG-LCA Durban Outcomes). The conclusion presents critical issues that will need to be considered by negotiators in shaping a post-Durban programme of work on agriculture.

2.0 Agriculture under the Durban Outcomes

After failed attempts to recognize agriculture in the UNFCCC, the AWG-LCA Durban Outcomes created space for agriculture, reflecting progress made over the past three years by negotiators to move toward a common understanding on key issues.² Agriculture is now officially on the SBSTA agenda. The Durban decision requested that SBSTA consider agriculture at its next session, with the goal of exchanging views and moving toward a decision at COP 18 in Doha, Qatar, in November–December 2012.

While many countries had hoped for greater progress with an agreement on a programme of work under SBSTA, the negotiations in Durban were difficult. This partly stems from agriculture being discussed under “cooperative sectoral approaches and sector-specific actions” under the AWG-LCA, which also includes discussions on the general framework for sectoral approaches and bunker fuels. These are both controversial negotiations that did not progress in Durban, with countries only agreeing to continue to consider these issues.

Another concern is that the agriculture text is under the mitigation section of the Bali Action Plan. While almost all countries agree that agriculture is an important issue when dealing with climate change, not all countries want agriculture under the mitigation discussions and instead support a broader view to include adaptation. Indeed, many developing countries have stressed that adaptation needs to be the priority in the agricultural sector. They are more concerned about adapting to the impacts of climate change on agricultural production than reducing greenhouse gas (GHG) emissions. Many developing countries are concerned that an agreement on agriculture under sectoral approaches would focus on mitigation and that a work programme under SBSTA would focus on scientific and technological mitigation issues such as methodologies to measure soil carbon. Addressing both adaptation and mitigation, and the linkages between the two, could go beyond the remit of SBSTA.

¹ See: UNFCCC (2012a, March 15). *Report of the Conference of the Parties on its seventeenth session held in Durban from 28 November to 11 December 2011. Addendum. Part Two: Action taken by the Conference of the Parties at its seventeenth session. Decisions adopted by the Conference of the Parties.* FCCC/CP/2011/9/Add.1. Retrieved from: <http://unfccc.int/resource/docs/2011/cop17/eng/09a01.pdf>

² See the paper in the IISD series entitled *Agriculture in an International Climate Change Agreement* for the background of the agriculture discussions.

Agriculture is also discussed in the negotiations under “adaptation,” though many countries think that the issue’s importance is downplayed by its positioning in a footnote in the adaptation section of the Cancun Agreements. Most countries agree that agriculture is an important element of climate change mitigation and adaptation, yet the issue of how to include agriculture in the international climate regime is not fully resolved.

Another concern, especially of large developing countries, is the potential trade implications of addressing agriculture in a climate change agreement. These countries are concerned that at some point any sectoral approach in agriculture will have to define what constitutes good practice in agriculture from a climate change perspective. Furthermore, the concern is that this standard might be used by an importing nation outside of the UNFCCC regime (i.e., as a unilateral measure) to restrict agricultural products that do not measure up.³ These trade concerns are not unique to agriculture, and are reflected in other areas of the negotiations, such as the broader discussions on sectoral approaches as well as market mechanisms.

Difficult negotiations on agriculture meant that the final decision in the Durban Outcomes was less comprehensive than expected by some. Countries did not agree on the need for a programme of work on agriculture; and the framing paragraphs in previous negotiating text were removed, which included language on:

- The links between food security and climate change
- That adaptation is a primary priority for developing countries
- That mitigation and adaptation are linked in the sector
- The need for safeguards
- Recognition of the rights of small and marginal farmers

While progress was less substantial than hoped for by many countries and observers, the movement on agriculture was at least step in the right direction in a difficult negotiation.

3.0 Submissions on Views Relating to Agriculture under SBSTA

Parties were invited to submit views on issues related to agriculture to the UNFCCC secretariat, to be considered by the SBSTA at its 36th session in Bonn, Germany, in May 2012. Submissions received from 21 Parties as of May 4, 2012 are summarized in Annex 1.

Seven **developed countries** (Australia, Canada, Denmark and the European Commission on behalf of the EU and its member states, Japan, New Zealand, Switzerland on behalf of the Environmental Integrity Group,⁴ and the United States) submitted views.

³ See paper in the IISD series entitled *Agriculture and Trade* for further discussion of the trade-related issues in addressing agriculture under the UNFCCC.

⁴ The Environmental Integrity Group includes both developed and developing countries, being comprised of Mexico, the Republic of Korea and Switzerland.

Many of these **developed countries** also suggested modalities for moving ahead, including expert meetings, technical workshops, open participation to accredited observers and annual reports to the COP.

Sixteen **developing countries** submitted views on agriculture to the UNFCCC as of May 4, 2012, including three countries from Latin America (Bolivia, Costa Rica and Uruguay); four from Asia (China, Iran, Philippines and Saudi Arabia), and nine from Africa (Burundi, Gambia on behalf of the Group of Least Developed Countries [LDCs], Malawi, South Africa, Sudan, Swaziland on behalf of the Group of African States, Tanzania, Uganda and Zambia).

The number of submissions from Africa is likely indicative of its countries' reliance on agriculture as a mainstay of their economies, and could reflect a desire to actively engage in the agricultural sector under the UNFCCC.

Table 1 below provides an overview of the key principles included in the submissions relative to the scope of discussions on agriculture under SBSTA. The table highlights similarities and divergences on priority issues between developed and developing countries.

TABLE 1: SUMMARY OF KEY PRINCIPLES FOR DISCUSSIONS ON AGRICULTURE UNDER SBSTA

KEY PRINCIPLE	NUMBER OF DEVELOPED COUNTRY PARTIES THAT INCLUDED PRINCIPLE IN SUBMISSION (7 TOTAL)	NUMBER OF DEVELOPING COUNTRY PARTIES THAT INCLUDED PRINCIPLE IN SUBMISSION (16 TOTAL)
Recognition of the importance of food security	6	9
Work programme could/should include adaptation and mitigation ; synergies between the two	7	9
Recognition of the links between agriculture and poverty reduction and/or livelihoods		7
Adaptation should be priority		10
Need to enhance international cooperation ; build on work of other groups (inside and outside of the UNFCCC)	6	6
Importance of financing (mobilize investment in the sector, inside and outside of the UNFCCC)	4	
Need for financial support (priority of LDCs, adaptation support)		9
Recognition of the importance of small and marginal farmers		6

Several countries provided perspectives on potential areas of emphasis for a structured work programme under SBSTA. **Developed countries** suggested numerous areas of emphasis for the work programme. These areas included:

- Identification of state of science and research needs
- Examination of synergies and trade-offs between mitigation and adaptation
- Measurement and estimation of GHG emissions and removals
- Measurement and reporting on adaptation
- Development and transfer of technologies for mitigation and adaptation, international cooperation on technology research and development (R&D)
- Support for capacity building, information sharing, education and training of stakeholders

Developing countries suggested numerous areas of emphasis for the work programme, including:

- Enhanced adaptation action, and emphasis on improving agricultural productivity
- Impact assessments and assessments of state of knowledge and research
- R&D for adaptation actions, technology R&D, and support for national R&D to enhance research and technology dissemination
- Technology transfer and dissemination, including for smallholders
- Scaling up best practices
- Strengthened innovation capacity for adaptation
- Measurement, metrics and methodologies
- Capacity needs assessments, capacity building, guidelines and tools
- Education and public awareness

Submissions from **African countries** emphasized the importance of the agricultural sector to their economies, noting that agriculture contributes substantially to GDP, exports, and employment and livelihoods in rural communities. Adaptation is a priority for African nations because enhancing agricultural sector resilience to the impacts of climate change is a priority—for both food security and economic development reasons. Many African country submissions urged developed countries and multilateral organizations to provide support, including finance, capacity building, research and technology transfer.

Many countries highlighted specific issues of concern, indicating that there are points of divergence on how agriculture can or should be addressed under the UNFCCC. For example:

- **Adaptation is the priority** – Many developing countries have stressed that adaptation is the priority in the agricultural sector and a critical factor in ensuring food security. One country indicated that the sector might not reduce its overall emissions as it works to feed a growing world population, and an alternative goal might be to ensure food security and adaptation above all, while minimizing the increase in GHG emissions.

- **The principle of common but differentiated responsibilities (CBDR)** – Some countries have stressed CDBR, indicating that an agreement on agriculture should not lead to commitments for developing countries.
- **General framework on sectoral cooperation** – Some countries have stressed the need for a general framework on sectoral cooperation before moving forward on agriculture, while others have called for a decoupling of agriculture from sectoral approaches.
- **Potential trade implications of addressing agriculture under the UNFCCC** – Some countries have indicated that actions on agriculture and climate change should not create trade barriers.
- **Agriculture should not be addressed within the UNFCCC** – One submission suggested that many groups are working on the issue, and a work programme under the UNFCCC may not be appropriate. Similar opposition is growing among a small group of civil society organizations. While most civil society organizations support including agriculture in the climate change regime, select organizations are highlighting the perceived risks. Their arguments included that:
 - A focus on climate-efficient methods could promote industrial agriculture to the detriment of small-scale agriculture and food provision
 - Zero/low tillage methods involve large-scale monoculture with increased agrochemical use
 - Soil carbon sequestration could be used to offset the emissions of developed countries, delaying real reductions (both in developed countries and in small-scale agricultural operations), and making soil carbon a tradable asset could increase speculation in land
 - There are major scientific uncertainties in relation to soil carbon emissions and sequestration; there can be a great deal of complexity and cost in measurement, reporting and verification of soil carbon⁵

While there are points of divergence, a review of submissions indicates several areas where consensus potentially can be built, including: the special nature of agriculture, that adaptation is a priority for developing countries, that mitigation and adaptation are linked in the sector, and the relationship between agriculture and food security. Section 4 summarizes a number of these key issues as recommendations to negotiators moving forward.

⁵ See for example, Food First (<http://www.foodfirst.org/en/Durban+climate+talks>), Climate Justice Now (<http://www.climate-justice-now.org/the-durban-package-escape-hatches-empty-shells-and-a-death-notice-to-equity/>) and Econexus (<http://www.econexus.info/arguments-against-proposed-programme-work-agriculture-under-unfccc's-scientific-advice-committee-sbs>).

4.0 Key Issues for Negotiators

COP 17 adopted a decision on agriculture in Durban, but much work remains to be done to ensure that agriculture is included in the international climate change regime in a way that encourages strengthened adaptive capacity and reduced emissions, while furthering food security and improving rural livelihoods.

Future agriculture and climate change discussions will need to consider several critical issues to ensure an effective outcome. These issues include:

- **Future deliberations should recognize that adaptation is the priority for agriculture in most developing countries, and efforts under the UNFCCC need to stress both adaptation and mitigation in all countries, developed and developing.** The distinction generally made between adaptation and mitigation under the UNFCCC framework becomes blurred in the case of agriculture, and the sector offers opportunities to deal with the two in an integrated manner. SBSTA discussions need to examine both adaptation and mitigation, and the linkages between the two require further research and investigation, which could be considered in a programme of work.⁶
- **Although there is general agreement that agriculture can address both adaptation and mitigation challenges, actions in the agricultural sector will mean different things in different regions and countries.** Not all areas will achieve the same levels of GHG emission reductions as they increase productivity. The emphasis should be on increasing productivity as efficiently as possible, while recognizing the critical importance of food security as a driving factor in many developing countries. This means that agriculture might require a different approach to emission reductions than the absolute approach used in the energy, transportation and industrial sectors. An efficiency approach—emissions per unit of production—is one such consideration.
- **Mitigation in the agricultural sector may have to be looked at differently than other sectors because food supplies must increase to meet the needs of a growing global population.** The agricultural sector is unique because the sector delivers food—a basic human need. For example, many countries will need increased fertilizer and other inputs to meet food security needs, and might experience increased agricultural emissions as they meet the food needs of a growing population. Such areas should not be penalized in an international agriculture and climate change agreement.
- **There are divergent views among parties as to the potential beneficiaries of an agreement on agriculture: smallholder farmers (the majority of whom are in developing countries and have strong links with livelihoods) and/or commercial farmers (in both developing and developed countries).** This is linked to the role of carbon markets and agricultural offsets, where there are questions about the possibility of designing a market mechanism that could engage millions of small farmers at a reasonable cost.
- **A deal might require that smallholder farmers in least developed and poorer developing countries receive special consideration and finance under a climate change and agriculture agreement to enhance climate resilience and mitigation in their production systems.**⁷ Developed countries could demonstrate their commitment in supporting an agriculture agreement under the UNFCCC through the provision of targeted funding for agriculture and climate change programs in these countries. Grant financing will be important to smallholder farmers, who are likely to prioritize adaptation and food security over mitigation.

⁶ See paper in the IISD series entitled *Integrating Mitigation and Adaptation in the Agricultural Sector*.

⁷ See paper in the IISD series entitled *Addressing Financing for Agriculture: Ensuring a Triple Dividend for Smallholders*.

- **The concerns and arguments of various groups that oppose including agriculture in an international agreement will become stronger and better organized.** Negotiators and supporters of a climate change regime that includes agriculture will need to address these concerns. Research and development organizations are well placed to present factual and substantiated information.

The agreement in Durban put agriculture on the UNFCCC agenda and the scope of discussion is open. Many of the issues in earlier versions of the negotiating text that are not included in the Durban agreement, could be reintroduced in future negotiating sessions. Elements where consensus could easily be built include: agreement on the special nature of agriculture, the relationship between agriculture and food security, the need for safeguards, that adaptation is the primary priority of developing countries in the agricultural sector, and that adaptation and mitigation are linked in the sector. Many countries will be interested in agreeing on a programme of work under SBSTA, and these discussions offer an opportunity to consider an integrated approach to mitigation and adaptation in the sector, one that also contributes to food security and rural livelihoods.

Annex 1: Party submissions on views on issues relating to agriculture under SBSTA (as of May 4, 2012): Main points in submissions

	CRITICAL ISSUES/ PRIORITIES LINKED TO AGRICULTURE	ADAPTATION AND MITIGATION	TECHNOLOGY TRANSFER AND CAPACITY BUILDING	FINANCING	RESEARCH AND KNOWLEDGE SHARING; WORK OF OTHER ORGANIZATIONS	OTHER
Australia	- Valuable and diverse role sector plays in providing food, livelihoods and incomes in many countries, as well as environmental benefits sector provides	- Critical that UNFCCC further facilitate sector's response to climate change in all countries in terms of both adaptation and mitigation	- Encourages SBSTA to consider ways and means to support capacity building, education and training on adaptation and mitigation - Identify innovative technologies, practices and processes and ways/means to promote their development and/or transfer		- Explore existing research, state of measures being taken, seek to identify priority areas - Build on existing initiatives (e.g., Global Research Alliance [GRA]) at international and national levels; fill gaps in research	
Bolivia	- Food security, small and marginal farmers, traditional peoples, special economic and social issues of developing countries - Need to safeguard food security	- Prioritize climate resilience - Stress climate-resilient agriculture and agroforestry in adaptation bodies	- Enable a research and knowledge-sharing agenda towards climate-resilient agriculture and agroforestry systems	- Stress non-market approaches to increase investment in CSA and agroforestry	- Many working on issue and work programme under UNFCCC may not be appropriate	- Work programme under SBSTA may not be appropriate - Require general framework on sectoral cooperation - Stress common but differentiated responsibility (CDBR) - Sector approaches should not create barriers to trade
Burundi	- Limited technical, financial and technological resources in developing countries	- Mitigation and adaptation are important - Adaptation priority actions - Mitigation priority actions (including measurement, reporting and verification [MRV])	- Technology transfer, and capacity building (including research needs, developing nationally appropriate mitigation actions [NAMAs], GHG accounting)	- Need for compensation fund - Need to fund policies, strategies and plans (e.g., NAMAs) - Need to access mitigation and adaptation funds		
Canada	- Enhance food security and the sustainability of agricultural systems	- Agriculture requires a holistic approach that encompasses food security, adaptation and mitigation	- Identify innovative technologies, practices and processes and ways/means to promote their development and/or transfer		- Provision of advice on scientific programs, international cooperation in R&D and means of building on synergies and existing knowledge/practices	
China	- Food security, poverty reduction and sustainable development - Priority is developed country support - Emissions from agricultural sector are necessary for basic survival in developing countries	- Mitigation and adaptation deserve equal attention - Adaptation more important for developing countries	- SBSTA dialogue to start with technology transfer and strengthen innovation capacity for adaptation in developing countries - Work programme on enhanced adaptation action - Developing country capacity for technology R&D and evaluation methods for controlling emissions	- Priority is how developed countries support the finance, technology transfer and capacity building to developing countries		- In accordance with CDBR - Must not lead to mitigation commitments for developing countries
Costa Rica	- Agriculture should be key sector in working plan of Adaptation Committee and become priority sector of technical assistance	- Work programme to incorporate synergies and trade-offs between mitigation and adaptation	Work programme to include: - Research and technology transfer - Capacity building: MRV, human resources, metrics	- Include financing for mitigation and adaptation, and for elaboration of NAMAs and national adaptation programs of action (NAPAs)	- Adaptation Committee to create a group of experts that takes into consideration scientific organizations that have experience in the tropics	
Denmark and the European Commission on behalf of the EU and its member states	- Do not threaten food security - Safeguard livelihoods in rural areas - Need to understand synergies and trade-offs	- Link between mitigation and adaptation important - Launch a work programme on adaptation and mitigation in agriculture	Work programme to examine: - State of scientific knowledge on climate change on agriculture and food security - Measurement and estimation of GHG emissions and removals - Synergies and trade-offs - Technology and know-how for adaptation and mitigation - Development and transfer of technologies (to farm level)	- Climate finance to contribute to mobilizing investments	- Need to share scientific knowledge and experience; enhance R&D cooperation - Build on existing tools, knowledge and processes - Examine approaches to enhance international cooperation in R&D, and support capacity building, information sharing, education and training	

	CRITICAL ISSUES/ PRIORITIES LINKED TO AGRICULTURE	ADAPTATION AND MITIGATION	TECHNOLOGY TRANSFER AND CAPACITY BUILDING	FINANCING	RESEARCH AND KNOWLEDGE SHARING; WORK OF OTHER ORGANIZATIONS	OTHER
Gambia on behalf of the Group of Least Developed Countries	<ul style="list-style-type: none"> - Work should not impact LDC's right to food security 	<ul style="list-style-type: none"> - Adaptation, not only mitigation - Through Adaptation Framework assess technology and practices to enhance mitigation and adaptation 	<ul style="list-style-type: none"> - Cooperate on R&D to benefit adaptation activities - Issues of interest: <ul style="list-style-type: none"> - Assess the state of knowledge and information (stress on adaptation) - Cooperate on R&D to benefit adaptation activities - Modelling of impacts in the agricultural sector - Integrated approach that includes livelihoods, traditional knowledge, cultural components; that considers the life cycle of agricultural inputs 		<ul style="list-style-type: none"> - Draw on processes in place: Nairobi Work Programme, Food and Agriculture Organization (FAO) and academic agencies, Intergovernmental Panel on Climate Change, other bodies under the Convention (such as Adaptation Committee), pilot projects - Work with Nairobi Work Programme to improve scientific and technological advice - Assess role of GRA, do not duplicate 	<ul style="list-style-type: none"> - Expect Work Programme on Loss and Damage to assess impacts of climate change on agriculture and food - No new commitments by developing countries
Iran	<ul style="list-style-type: none"> - Key role of agricultural sector in creating jobs, reducing poverty and ensuring food security in developing countries - Reductions in agricultural productivity will undermine food security 	<ul style="list-style-type: none"> - Adaptation important, and could be considered in national adaptation plans 	<ul style="list-style-type: none"> - Special mechanism for innovation, development, transfer and dissemination of agricultural technologies for mitigation and adaptation 	<ul style="list-style-type: none"> - Sufficient resources to be provided by GCF and other sources for adaptation in developing countries - Resources needed for national adaptation plans (NAPs) 		<ul style="list-style-type: none"> - Need to clearly define climate-smart agriculture (CSA) - Consider subsectors: soil, water, forestry and range management
Japan	<ul style="list-style-type: none"> - Essential sector for addressing food security, poverty eradication and sustainable rural development 	<ul style="list-style-type: none"> - Need to improve efficiency and productivity in agriculture sector, ensuring the compatibility with mitigation (consider various factors such as biodiversity) 	<ul style="list-style-type: none"> - Need to enhance knowledge and technologies for monitoring GHG emissions and sequestrations - International cooperation on technology R&D - Need to establish mechanisms to share knowledge, technologies and activities on: 1) GHG emission reduction and carbon sequestration from agriculture; and 2) activities on adaptation 	<ul style="list-style-type: none"> - Consider the linkage to various types of climate funds such as the Green Climate Fund and the Adaptation Fund, as well as further availability of all other financial sources 		
Malawi	<ul style="list-style-type: none"> - Emphasize smallholder farmers 	<ul style="list-style-type: none"> - Emphasize adaptation 	<ul style="list-style-type: none"> - Compile and assess state of scientific knowledge and projected impacts/data and info from national communications, needs assessments, etc. to identify effective adaptation strategies - Technology transfer for smallholders - Strengthen national institutions and policy frameworks for education and public awareness programs on climate change impacts on agriculture - Identify tools for measurement and guidelines for carbon sequestration, climate forecasting and upscaling technologies for increased productivity 			
New Zealand	<ul style="list-style-type: none"> - Importance of relationship between agriculture and food security - Adaptation and mitigation to be placed in context of sustainable development and food security - Account for national circumstances - Make well-informed and science-based decisions 	<ul style="list-style-type: none"> - Structured and holistic consideration of issues related to mitigation and adaptation 	<ul style="list-style-type: none"> - Opportunity to share experiences, good practices and lessons learned: <ul style="list-style-type: none"> - Assess state of scientific knowledge on the: physical impacts of climate change on agriculture, and measurement and estimation of GHG emissions and removals - Consider scientific, technical and socioeconomic aspects of adaptation and mitigation and their synergies - Identify how to support capacity-building, information sharing, education and training of all relevant stakeholders - Identify mitigation and adaptation technologies, practices, processes and know-how and advice for promoting development and/or transfer 	<ul style="list-style-type: none"> - Promote enhanced and coordinated investment in the agriculture sector, including by governments, farmers, the private sector, organizations, foundations and other funding agencies 	<ul style="list-style-type: none"> - Engage all relevant actors - Strengthen synergies between UNFCCC and relevant actors - Consider work of other organizations, Consultative Group on International Agricultural Research (CGIAR), GRA, Joint Programming Initiative: Agriculture, Food Security and Climate Change (FACCE-JP), etc. - Provide advice on scientific programs, international cooperation in research and development - Consider how existing or emerging institutional arrangements under the UNFCCC can support adaptation and mitigation - Share information of relevant activities within and outside 	<ul style="list-style-type: none"> - SBSTA could employ the following modes of work: workshops, expert meetings, and consultations; invite accredited observer organizations and other experts to participate in activities; reports and technical papers (UNFCCC and other groups); regular progress reports to the COP - SBSTA should look at its existing programme of work and any relevant areas that need to be identified and built upon

	CRITICAL ISSUES/ PRIORITIES LINKED TO AGRICULTURE	ADAPTATION AND MITIGATION	TECHNOLOGY TRANSFER AND CAPACITY BUILDING	FINANCING	RESEARCH AND KNOWLEDGE SHARING; WORK OF OTHER ORGANIZATIONS	OTHER
Philippines	<ul style="list-style-type: none"> - Emphasize small farmers and producers in developing countries - Address challenge of water and food security - Cooperative sectoral approach to not weaken developing countries' capacity to achieve food self-sufficiency 	<ul style="list-style-type: none"> - Action should focus on adaptation - Interactions with mitigation—must pursue strategies that address both - Mitigation activities to not undermine the livelihoods and rights of smallholder farmers and fishers 	<ul style="list-style-type: none"> - Need to build knowledge for resiliency in agriculture to shape adaptation strategies 			
Saudi Arabia			<ul style="list-style-type: none"> - Focus on how a cooperative sectoral approach can enhance technology transfer to developing countries 		<ul style="list-style-type: none"> - Exchange of views and knowledge sharing with other relevant international bodies, such as the FAO, International Fund For Agricultural (IFAD) and UN World Food Programme (WFP) 	<ul style="list-style-type: none"> - Sectoral approach must be addressed under the guiding principles of the UNFCCC, which should be clearly stated in a framework - Should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade or used to gain competitiveness on agriculture trade - Actions in the agriculture sector are undertaken in a manner that is supportive of an open international economic system with specific focus on reducing the GHG emissions
South Africa	<ul style="list-style-type: none"> - Emphasizes importance of food security and poverty reduction 	<ul style="list-style-type: none"> - Adaptation is the priority - Synergies possible between mitigation and adaptation - An integrated, holistic approach to climate resilience needs to be mainstreamed into agriculture, sustainable food production and development priorities 	<p>SBSTA to consider:</p> <ul style="list-style-type: none"> - Case studies to indicate linkages with food security, poverty and climate change - Identify appropriate and relevant research on technology development - Identify early actions to scale up best practices - Suggest and recommend activities to promote capacity building and awareness - Create platforms to ensure management of risks - Suggest scenarios on how to achieve universal food security for a growing population - Identify and recommend increased efficiency in agricultural practices 	<ul style="list-style-type: none"> - Identify sources of support and access to possible source of funding 	<ul style="list-style-type: none"> - Adequate exchange of views and knowledge sharing with other relevant international bodies, such as the FAO, IFAD and WFP - Case studies on channels of communication between government, scientific community and stakeholders - Invite researchers and scientific organization to submit information to SBSTA 	<ul style="list-style-type: none"> - Arrange workshops to further inform the development of a relevant work programme on agriculture
Sudan	<ul style="list-style-type: none"> - Emphasizes food security, poverty eradication and socioeconomic development - Importance of smallholder and marginal farmers and fishers 		<p>Priority issues under SBSTA:</p> <ul style="list-style-type: none"> - Knowledge – compile and assess present state of knowledge, identify and transfer appropriate practices and technologies, support mechanisms for dissemination of knowledge and technologies, facilitate assessment of impacts of climate change, guidelines for identifying mitigation potential - National R&D – workshops, technical paper; harmonize methodologies and guidelines for carbon emissions and sequestration; assessment of postharvest waste and inefficiencies; identify tool and models for climate forecasting; support national carbon accounting systems - Cooperation for R&D – 3-year work programme to enhance international cooperation on R&D - Capacity Development – assessment of needs and support mechanism 	<ul style="list-style-type: none"> - Urges Annex II parties, development partners and multilateral organizations to provide support including finance, capacity building, research and technology transfer to African countries for adaptation and mitigation actions in agricultural sector 		<ul style="list-style-type: none"> - Provide advice to COP on issues to be addressed to realize food security, eradicate poverty, enhance development and livelihoods—financing, trade, IPR and support for early action in agriculture

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Swaziland on behalf of the Group of African States	<ul style="list-style-type: none"> - Africa emphasizes that agriculture is central to the economic and social development of its people - The priority is to ensure food security, eradicate poverty, enhance socioeconomic development, environment and livelihood sustainability with special attention to smallholder and marginal farmers and fishers 		<p>Priority issues</p> <ul style="list-style-type: none"> - Knowledge – compile and assess present state of knowledge, identify and transfer appropriate practices and technologies, support mechanisms for dissemination of knowledge and technologies, facilitate assessment of impacts of climate change, guidelines for identifying mitigation potential - National R&D – workshops, technical paper; harmonize methodologies and guidelines for carbon emissions and sequestration; assessment of postharvest waste and inefficiencies; identify tool and models for climate forecasting; support national carbon accounting systems - Cooperation for R&D – 3-year work programme to enhance international cooperation on R&D - Capacity Development – assessment of needs and support mechanism 	<ul style="list-style-type: none"> - Urges Annex II parties development partners and multilateral organizations to provide support including finance, capacity building, research and technology transfer to African countries for adaptation and mitigation actions in agricultural sector 		<ul style="list-style-type: none"> - Provide advice to COP on issues to be addressed to realize food security, eradicate poverty, enhance development and livelihoods—financing, trade, intellectual property rights (IPR) and support for early action in agriculture
Switzerland on behalf of the Environmental Integrity Group (EIG)	<ul style="list-style-type: none"> - Work programme would allow better understanding of the dimensions and challenges of agriculture; contribute to combating climate change while improving food security, reducing poverty and sustaining agro-ecosystems services The work programme should aim to: <ul style="list-style-type: none"> - Increase capacity of the agricultural sector to cope with climate change impacts - Minimize GHG emissions from agricultural sector - Improve food security, reduce poverty and increase agro-ecosystems services 	<ul style="list-style-type: none"> - Priority to areas where synergies between adaptation and mitigation can be expected - Information on potentials and implications of actions and mechanisms for/on adaptation and mitigation when they draw up policies and strategies - Identify potential for mitigation and adaptation at a regional and farming systems level 	<ul style="list-style-type: none"> - Identify technologies to improve measuring and reporting of GHG emissions and adaptation - Compile overview of state of art, identify gaps in scientific knowledge and research needs - Address issues related to agricultural systems (including livestock and agroforestry), and issues along the whole food value chain 	<ul style="list-style-type: none"> - Examine entry points for agriculture-related issues and for farmers organizations in existing mechanisms (e.g., Global Environment Facility [GEF]), Green Climate Fund, Adaptation Fund and Committee, REDD+, market and non-market based mechanisms, etc.), also taking into account funding opportunities outside UNFCCC 	<ul style="list-style-type: none"> - Identify linkages between agriculture and existing tools and mechanisms under UNFCCC and outside - Draw on already completed work, e.g., FAO, GRA and CGIAR - Strengthen synergies with work being done relating to adaptation, mitigation, REDD+, flexible mechanisms, and land use, land use change and forestry (LULUCF), inside and outside UNFCCC - Draw from existing competent international bodies and experts, and existing reports - Survey research and knowledge outside the UNFCCC while ensuring that its own inputs build upon and are complementary to these efforts - Mandate the IPCC to develop methodologies for reporting 	<p>Ways of Working:</p> <ul style="list-style-type: none"> - Adopt priority areas of action each year. Agree on first work programme priorities at SBSTA 38. - Report annually to COP - Open participation, as appropriate, to accredited observer organizations (e.g. FAO, CGIAR, GRA, farmers' organizations)
Uganda	<ul style="list-style-type: none"> - Agriculture is central to economic and social development. Priority is food security, poverty eradication and enhancing socioeconomic development, with attention to smallholder and marginal farmers through adaptation, and identifying potential co-benefits of mitigation. 	<ul style="list-style-type: none"> - Adaptation should be given preference - Mitigation actions should be promoted; but prioritize mitigation actions that deliver co-benefits of adaptation, contribute to efficiency in agricultural production systems, and do not negatively affect food security and livelihoods of rural communities to improve resilience 	<ul style="list-style-type: none"> - Need for assessments of climate change impacts - Step up capacity building - Guidelines and tools, and capacity building to establish mitigation potential - Identification and transfer of appropriate practices and technologies, with a focus on land users, especially farmers, and use South-South and North-South cooperation as appropriate. - Agricultural extension service necessary for transfer of practices and technologies - Capacity needs assessments and capacity development activities for agricultural research institutions at national and regional levels; including programs for international and regional cooperation and information sharing networks - Establish guidelines and modalities to facilitate the process of identifying mitigation potential in agriculture, in particular LDCs and Africa, taking into account national circumstances 	<ul style="list-style-type: none"> - Circumstances in LDCs call for international cooperation and support - Annex II Parties, development partners and multilateral organizations are urged to provide support including finance, capacity building, research and technology transfer to LDCs and Africa 		

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United Republic of Tanzania	<ul style="list-style-type: none"> - Stress importance of food security and rural livelihoods to the economy - Sustainable development approach - mitigation opportunities and options should arise from increased support for agricultural sustainability to ensure food security, economic growth and better livelihood for poor countries - No one size fits all approach. The international community should avoid giving international guidelines or making decisions that undermine national sovereignty in addressing their sustainable development needs in the agriculture sector. Such decisions or guidelines should not limit or confine countries to a given set of standardized procedures. 	<ul style="list-style-type: none"> - Adaptation is a priority; agriculture issues to be addressed from a national perspective since it is the backbone of many poor countries' economies - Approaches to increase productivity and economic sustainability should also generate mitigation benefits - Adaptation actions should be taken as a measure to achieve mitigation needs and should aim at improving productivity for ensuring food security, economic growth and better livelihoods 	<ul style="list-style-type: none"> - Need for early actions to demonstrate, share knowledge and scale-up best practices and approaches in adaptation and mitigation - Emphasis on improved agriculture productivity: in short term, address extreme weather events; in medium term, early warning systems, information dissemination; and long term, new research and policy approaches to address the challenges associated with ecosystem shift and global agricultural trade imbalances due to climate change 	<ul style="list-style-type: none"> - International support (finance, technology, capacity building) required in short, medium and long term 	<ul style="list-style-type: none"> - Appropriate climate change actions in the agricultural sector should draw lessons from other related processes (e.g., REDD+ and LULUCF) 	<ul style="list-style-type: none"> - SBSTA should consider providing information and advice to the COP on how to deal with issues that need to be addressed to realize food security, to eradicate poverty, enhance socioeconomic development, environment and livelihood sustainability and support effective adaptation and mitigation in agriculture. These issues include: financing agriculture, trade, intellectual property rights and support for early action in agriculture.
United States	<ul style="list-style-type: none"> - COP decisions should focus on broad topics: adaptation and mitigation synergies; improved efficiency, productivity, and resilience; safeguarding food security and livelihoods; capacity building; research needs; technology transfer 	<ul style="list-style-type: none"> - Adaptation and mitigation synergies 	<p>Adaptation issues</p> <ul style="list-style-type: none"> - Improving conservation technologies and practices to improve resilience to climate variability and change - Improving availability of and access to information on agronomic yield variables, drought, climate variability, and extreme events - Improving cultivars to adapt to climate variability and change and resulting ecosystem changes/disruptions - Assessing what needs to become part of technology transfer pipeline and how this information can be effectively communicated - Promoting the transfer of relevant adaptation technologies and implementation of adaptation practices <p>Mitigation</p> <ul style="list-style-type: none"> - Assessing the effectiveness of technologies and practices on carbon sequestration, CO₂ emissions, CH₄ emissions, and N₂O emissions and nitrogen use and fixation - Identifying GHG measurement and estimation techniques including sampling, use of modelling, and remote sensing - Linking efforts to reduce emissions from deforestation and land degradation through improved efficiency and productivity improvements - Assessing what needs to become part of technology transfer pipeline and how this information can be effectively communicated on mitigation - Promoting the transfer of relevant mitigation technologies 		<ul style="list-style-type: none"> - Information sharing and provision of technological information - Linkages with the Cancun Adaptation Framework, Nairobi Work Programme and Adaptation Committee - Input from research organizations, institutions (e.g., World Bank and FAO), private sector and non-governmental organizations - Successful efforts of GRA could serve as a model for enhanced scientific cooperation - Informed by IPCC assessment; SBSTA to welcome the participation of the IPCC as it addresses agriculture in its Fifth Assessment Report 	<p>Next steps</p> <ul style="list-style-type: none"> - Expert technical meeting on adaptation in 2012 that considers five areas: - State of the science on the effects of climate change on agriculture production and food security - Adequacy of current climate change data, information, and analysis systems to support decision-making - Effectiveness and cost of adaptation measures - Technical advice on agriculture research priorities and needs - International cooperation on R&D, and how to support capacity building in developing countries - Technical advice on human and institutional capacity-building needs in the area of agriculture, food security and climate change in developing countries - In 2013 hold a workshop on mitigation

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Uruguay	<ul style="list-style-type: none"> - Decouple agriculture from sectoral approaches - Recognize that the sector may not reduce its overall emissions as it works to feed a growing world population. An alternative goal might be to ensure food security and adaptation above all, while minimizing the increase in GHG emissions. - Real opportunities for win-win strategies that increase food production with less emissions of GHG per unit of output 	<ul style="list-style-type: none"> - Include adaptation activities - Synergies (and tradeoffs) between adaptation and mitigation: adaptation is at least as important as mitigation, if not more 	<ul style="list-style-type: none"> - Focus on assessments of scientific knowledge, identification of technologies and know-who, and technology transfer, international cooperation on R&D <p>Priority areas:</p> <ul style="list-style-type: none"> - Assessment of the state of knowledge and information - Cooperation on R&D - Capacity building - Additional information on climate change impacts in relation to different scales - Measurement and methodologies - Integrated approach: attention should be paid to livelihoods and cultural components of agriculture 			
Zambia	<ul style="list-style-type: none"> - Agriculture is central to the economic and social development of its people 	<ul style="list-style-type: none"> - Cooperation on new research and sharing of knowledge to benefit both mitigation and adaptation activities 	<p>Priority issues under SBSTA:</p> <ul style="list-style-type: none"> - Knowledge - compile and assess present state of knowledge, identify and transfer appropriate practices and technologies, support mechanisms for dissemination of knowledge and technologies, facilitate assessment of impacts of climate change guidelines for identifying mitigation potential - National R&D - workshops, technical paper; harmonize methodologies and guidelines for carbon emissions and sequestration; assessment of postharvest waste and inefficiencies; identify tool and models for climate forecasting; support national carbon accounting systems - Cooperation for R&D - 3-year work programme to enhance international cooperation on R&D - Capacity Development - assessment of needs and support mechanism 	<ul style="list-style-type: none"> - Urges Annex II Parties development partners and multilateral organizations to provide support including finance, capacity building, research and technology transfer to African countries for adaptation and mitigation actions in agricultural sector 		<ul style="list-style-type: none"> - SBSTA should consider providing information and advice to COP on how to deal with issues that need to be addressed to realize food security, to eradicate poverty, enhance socioeconomic development, environment and livelihood sustainability and support effective adaptation and mitigation in agriculture. These issues include; financing agriculture, trade, intellectual property rights and support for early action in agriculture.

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